NXpower Monitor Package Product Sheet



The Insights Hub application NXpower Monitor (NXpM) enables you to visualize and monitor electrical Assets within a substation continuously from anywhere in the world, e.g. air- and gas-insulated (AIS and GIS) medium-voltage (MV) switchgears as well as low-voltage (LV) switchgears. NXpower Monitor is an application configurable for system and solution type of business, which involves more than one component and system.

Thanks to increased transparency, organizations can optimize their Operating Expenses (OPEX) and simultaneously achieve better risk management. The NXpower Monitor Package consists of the Insights Hub application NXpower Monitor and selected Industrial IoT Resources which are required to access the Platform and to utilize the application.

Prerequisites	
Hardware	This application is only compatible with data provided through SICAM A8000 device series including CP-8031 and CP-8050 with support to SIAPP function (NXpower Monitor specific).
Software	To enable communication with your Insights Hub Account, the SICAM A8000 device needs to be equipped with the IoT protocol driver: • "OPUPIO AMQP/MQTT (IOT) and SIAPP (NXpower Monitor specific)" for SICAM A8000 CP-8050, CP-8031. The minimum protocol firmware version required is v03 or higher. The following SICAM A8000 engineering software can be used for the configuration of the IoT communication protocol (MindConnect Lib): • SICAM TOOLBOX II v6.02 or higher • SICAM Device Manager v2.10 or higher • SICAM Web v5.10 or higher SICAM A8000 devices and their configuration and onboarding are not part of our Offering.
Subscriptions	A valid subscription related to the corresponding extension in Asset Transparency is required when purchasing extensions related to Condition Monitoring (Temperature and Mechanical Operation Counter Monitoring, Partial Discharge Monitoring, Circuit Breaker Monitoring).
Web browser	An HTML5 capable Internet browser with latest version is required (e.g. Google Chrome). The recommended screen resolution is 1024x768 or higher.
Internet connection	A secured, firewalled Internet connection (Port: 9400) between your process LAN and SICAM A8000 device is required to establish a connection to the NXpower Monitor application in Insights Hub, in compliance with cybersecurity regulations.

The settings shall be implemented in consultation with local IT expert and may vary based on the IT Infrastructure.

The bandwidth of your Internet connection will determine your experience of the performance of the Offerings.

Description of NXpower Monitor Application

General

NXpower Monitor supports Key Performance Indicator (KPI) calculation and monitoring of your time series and alarm data from electrical distribution Assets. Different views provide you with an overview of your Substation Assets on different hierarchy levels.

In addition to Asset Transparency, the Maintenance and Condition Monitoring View are available. The Condition Monitoring View consists of three different options: Temperature and Mechanical Operation Counter Monitoring, Partial Discharge Monitoring and Circuit Breaker Monitoring.

Asset Transparency

Asset Transparency consists of the geographical, management and operational view. This enables you to visualize and monitor electrical Assets within a substation continuously from anywhere in the world. Get an overview representation of all connected substations in a map view and select a Substation to get a summary including high-level KPIs about connected Assets. You can deep dive into an Asset and all relevant data about different Feeders and operational data of switchgear will be shown (operational view). You can monitor Asset performance through KPIs. The available data can be visualized in different charts with configurable time frame. In addition, Asset Transparency also provides a central repository system for documentation related to the connected Assets and Substations, e.g. single line diagram, bill of material, dimensional drawings, maintenance reports, operational reports etc. as well as user manuals.

Furthermore, Asset Transparency allows you to make comparisons between connected Substations and Assets to find correlation and root causes in energy consumption data.

Maintenance View

Maintenance View provides deeper information about the alarms triggered from connected Assets, e.g. from protection relays, in addition with statistical analysis and trends of the alarms.

You can register an email address for receiving email notifications in case of an alarm. This email includes:

- The name and location of Substation and/ or switchgear
- The name of the alarm

The Maintenance View includes a Maintenance Planner to organize and visualize the maintenance measures for the Assets.

Condition Monitoring

Customer gets detailed information along with indications about the health status of the Asset based on different condition monitoring options such as temperature, operation counter, humidity, circuit breaker and partial discharge monitoring based on the availability of the respective sensors. The information provided on the health status of the Assets is merely indicative and not binding to you. However, this can be used as guidance in assessing the risk associated with Assets. This might help customers in scheduling the maintenance as well as taking decisions regarding replacing the parts/components/Assets itself.

Description of Industrial IoT Resources

The following Industrial IoT Resources ("Industrial IoT Resources") are included in the NXpower Monitor Package or its extensions. These have been selected to ensure proper operation of the application.

Base Environment	The Base Environment provides you with a dedicated Account (also referred to as "Environment") on Insights Hub. It enables you to login to your Account via the respective URL provided by us and is required for use of the application and Industrial IoT Resources. The Base Environment includes 1 Admin User and provides you with the following administration tools available on the Insights Hub Launchpad: • Usage Transparency: provides information regarding your consumption of Industrial IoT Resources. • Agent Diagnostic: allows you to activate and deactivate agent logfiles and to access them. • Settings: allow managing Users, permissions, rights, roles, groups, Collaborations, and environment provider information. For every User, an individual login is required. Access policies are available only upon request. Insights Hub sales representative or Insights Hub Support to be contacted to enable use of access policies. • Asset Manager: use Asset Manager to onboard & offboard agents to your Account; to configure assets, asset types and aspect types; to manage the Sharing of assets under a Collaboration between Accounts using Cross-Tenancy. • Upgrade: can be used to order available upgrades (incl. add-ons) to already Offerings; to get an overview of requested and completed upgrades; to manage pending upgrade requests (authorized Users only). The Base Environment provides you with the following connectivity "Connect your Things" capabilities as well: • To connect assets using own PC as a gateway with MindConnect Software Agent. • To connect individual hardware using MindConnect API services, MindConnect MQTT Services, MindConnect OPC UA PubSub Services and MindConnect Library. • To use MindConnect Hardware e.g. MindConnect Nano, MindConnect loT2040, MindConnect loT2050. • Zero touch onboarding using MindConnect OPC UA PubSub Services and
	 MindConnect MQTT Services. To maintain connected devices by using MindConnect Device Management Services. For more information regarding Connect your Things capabilities, please refer to the Product Sheet for Insights Hub Capability Packages available at https://siemens.mindsphere.io/en/docs/Product-Descriptions-Overview/MindSphere-Product-Sheets.
Additional Industrial IoT Resources	In addition to the Base Environment, the following Industrial IoT Resources are included in the NXpower Monitor Package and its extensions: • Asset Attributes • File Storage • Notification Email • Time Series Data Ingest Rate • Time Series Data Storage
	For general descriptions of the Industrial IoT Resources listed above, please refer to the Insights Hub Glossary.

Pricing Model		
Application subscription	NXpower Monitor Package Starter	
	for 1 Substation	

Fee	See C	order ¹	
The application subscription allows access to the application NXpower Monitor for 1 Substation, including the Base Environment and Industrial IoT Resources suitable to connect 1 Substation to the Platform.			
NXpower Monitor application	✓		
Base Environment ²	~	•	
Asset Attributes	4	3	
Time Series Data Storage	1 (GB	
Time Series Data Ingest Rate	0.01	KB/s	
File Storage	10	GB	
Extension (for application and	NXpM Substa	tion Extension	
Industrial IoT Resources)	Subsci	ription	
	for 1 addition	nal Substation	
Fee	See C		
The NXpM Substation Extension provides connect 1 additional Substation to the Pla	you with 1 additional Substation, includin tform.	g Industrial IoT Resources suitable to	
Asset Attributes	43 additional A	Asset Attributes	
Time Series Data Storage	1 GB additional Time	e Series Data Storage	
Time Series Data Ingest Rate	0.01 KB/s additional Tim	e Series Data Ingest Rate	
File Storage		nal File Storage	
Extension (for application and Industrial IoT Resources)	NXpM Transparency AIS, single		
illuustilai loi Resources)	Subscription	Subscription	
	1 additional Feeder	50 additional Feeders	
Fee	See Order ¹ See Order ¹		
The extension NXpM Transparency AIS, single (NXpower Monitor Package Asset Transparency for MV-Feeder (single busbar, AIS)) provides you with 1 or 50 additional Feeder(s) Asset Transparency of a medium-voltage air-insulated single busbar switchgear and contains the following additional Industrial IoT Resources suitable to connect 1 or 50 additional medium-voltage Feeder(s) (single busbar, air-insulated) to the Platform, depending on the selected package.			
Asset Attributes	30 additional Asset Attributes	1 500 additional Asset Attributes	
Time Series Data Storage	1 GB additional Time Series Data Storage	10 GB additional Time Series Data Storage	
Time Series Data Ingest Rate	0.08 KB/s additional Time Series Data Ingest Rate	3.68 KB/s additional Time Series Data Ingest Rate	
Extension (for application and	NXpM Transpar	ency GIS, single	
Industrial IoT Resources)	Subscription	Subscription	
	1 additional Feeder	50 additional Feeders	
Fee	See Order ¹	See Order ¹	
The extension NXpM Transparency GIS, single (NXpower Monitor Package Asset Transparency for MV-Feeder (single busbar, GIS)) provides you with 1 or 50 additional Feeder(s) Asset Transparency of a medium-voltage gas-insulated single busbar switchgear and contains the following additional Industrial IoT Resources suitable to connect 1 or 50 additional medium-voltage Feeder(s) (single busbar, gas-insulated) to the Platform, depending on the selected package.			
Asset Attributes	38 additional Asset Attributes	1 900 additional Asset Attributes	
Time Series Data Storage	1 GB additional Time Series Data Storage	10 GB additional Time Series Data Storage	
Time Series Data Ingest Rate	0.08 KB/s additional Time Series Data Ingest Rate	3.71 KB/s additional Time Series Data Ingest Rate	

Extension (for application and	NXpM Transparency GIS, double	
Industrial IoT Resources)	Subscription	Subscription
	1 additional Feeder	50 additional Feeders
Fee	See Order ¹	See Order ¹
medium-voltage Feeder(s) (double busba	ving additional Industrial IoT Resources sui r, gas-insulated) to the Platform, dependir	g on the selected package.
Asset Attributes	69 additional Asset Attributes	3 450 additional Asset Attributes
Time Series Data Storage	1 GB additional Time Series Data Storage	14 GB additional Time Series Data Storage
Time Series Data Ingest Rate	0.11 KB/s additional Time Series Data Ingest Rate	5.19 KB/s additional Time Series Data Ingest Rate
Extension (for application and	NXpM Temperature AIS	
Industrial IoT Resources)	Subscription	Subscription
	1 additional Feeder	50 additional Feeders
Fee	See Order ¹	See Order ¹

Fee See Order¹ See Order¹

The extension NXpM Temperature AIS (NXpower Monitor Package Temperature and Mechanical Operation Counter Monitoring for MV-Feeder (AIS)) provides you with 1 or 50 additional Feeder(s) Temperature and Mechanical Operation Counter Monitoring of a medium-voltage air-insulated switchgear and contains the following additional Industrial IoT Resources suitable to connect 1 or 50 additional medium-voltage Feeder(s) (air-insulated) to the Platform, depending on the selected package.

Asset Attributes	9 additional Asset Attributes	450 additional Asset Attributes
Time Series Data Storage	1 GB additional Time Series Data Storage	6 GB additional Time Series Data Storage
Time Series Data Ingest Rate	0.05 KB/s additional Time Series Data Ingest Rate	2.02 KB/s additional Time Series Data Ingest Rate

Extension (for application and	NXpM Temperature GIS	
Industrial IoT Resources)	Subscription	Subscription
	1 additional Feeder	50 additional Feeders
Fee	See Order ¹	See Order ¹

The extension NXpM Temperature GIS (NXpower Monitor Package Temperature and Mechanical Operation Counter Monitoring for MV-Feeder (GIS)) provides you with 1 or 50 additional Feeder(s) Temperature and Mechanical Operation Counter Monitoring of a medium-voltage gas-insulated switchgear and contains the following additional Industrial IoT Resources suitable to connect 1 or 50 additional medium-voltage Feeder(s) (gas-insulated) to the Platform, depending on the selected package.

Asset Attributes	5 additional Asset Attributes	250 additional Asset Attributes
Time Series Data Storage	1 GB additional Time Series Data Storage	4 GB additional Time Series Data Storage
Time Series Data Ingest Rate	0.03 KB/s additional Time Series Data Ingest Rate	1.22 KB/s additional Time Series Data Ingest Rate

Extension (for application and	NXpM Temperature AIS, add.	
Industrial IoT Resources)	Subscription	Subscription
	1 additional Feeder	50 additional Feeders
Fee	See Order ¹	See Order ¹

The extension NXpM Temperature AIS, add. (NXpower Monitor Package Temperature and Mechanical Operation Counter Monitoring (additional sensors on bushing side) for MV-Feeder (AIS)) provides you with 1 or 50 additional Feeder(s) Temperature and Mechanical Operation Counter Monitoring (additional sensors on bushing side) of a medium-voltage airinsulated switchgear and contains the following additional Industrial IoT Resources suitable to connect 1 or 50 additional medium-voltage Feeder(s) (air-insulated) to the Platform, depending on the selected package.

	Storage	Storage
Time Series Data Ingest Rate	0.06 KB/s additional Time Series Data Ingest Rate	2.7 KBIs additional Time Series Data Ingest Rate

Extension (for application and	NXpM Temperature GIS, add.	
Industrial IoT Resources)	Subscription	Subscription
	1 additional Feeder	50 additional Feeders
Fee	See Order ¹	See Order ¹

The extension NXpM Temperature GIS, add. (NXpower Monitor Package Temperature and Mechanical Operation Counter Monitoring (more than one sensor per phase) for MV-Feeder (GIS)) provides you with 1 or 50 additional Feeder(s) Temperature and Mechanical Operation Counter Monitoring (more than one sensor per phase) of a medium-voltage gas-insulated switchgear and contains the following additional Industrial IoT Resources suitable to connect 1 or 50 additional medium-voltage Feeder(s) (gas-insulated) to the Platform, depending on the selected package.

Asset Attributes	23 additional Asset Attributes	1 150 additional Asset Attributes
Time Series Data Storage	1 GB additional Time Series Data Storage	12 GB additional Time Series Data Storage
Time Series Data Ingest Rate	0.09 KB/s additional Time Series Data Ingest Rate	4.43 KB/s additional Time Series Data Ingest Rate

Extension (for application and	NXpM	PD AIS
Industrial IoT Resources)	Subscription	Subscription
	1 additional Feeder	50 additional Feeders
Fee	See Order ¹	See Order ¹

The extension NXpM PD AIS (NXpower Monitor Package Partial Discharge Monitoring for MV-Feeder (AIS)) provides you with 1 or 50 additional Feeder(s) Partial Discharge Monitoring of a medium-voltage air-insulated switchgear and contains the following additional Industrial IoT Resources suitable to connect 1 or 50 additional medium-voltage Feeder(s) (air-insulated) to the Platform, depending on the selected package.

50 50 1 1 1 1 1.	Ingest Rate	Ingest Rate
Time Series Data Ingest Rate	0.08 KB/s additional Time Series Data	3.61 KB/s additional Time Series Data
	Storage	Storage
Time Series Data Storage	1 GB additional Time Series Data	10 GB additional Time Series Data
Asset Attributes	21 additional Asset Attributes	1 050 additional Asset Attributes

Extension (for application and	NXpM PD GIS	
Industrial IoT Resources)	Subscription	Subscription
	1 additional Feeder	50 additional Feeder
Fee	See Order ¹	See Order ¹

The extension NXpM PD GIS (NXpower Monitor Package Partial Discharge Monitoring for MV-Feeder (GIS)) provides you with 1 or 50 additional Feeder(s) Partial Discharge Monitoring of a medium-voltage gas-insulated switchgear and contains the following additional Industrial IoT Resources suitable to connect 1 or 50 additional medium-voltage Feeder(s) (gas-insulated) to the Platform, depending on the selected package.

Asset Attributes	1 additional Asset Attributes	50 additional Asset Attributes
Time Series Data Storage	1 GB additional Time Series Data Storage	1 GB additional Time Series Data Storage
Time Series Data Ingest Rate	0.01 KB/s additional Time Series Data Ingest Rate	0.02 KB/s additional Time Series Data Ingest Rate

Extension (for application and Industrial IoT Resources)	NXpM C	B AIS, GIS	
	Subscription	Subscription	
	1 additional Feeder	50 additional Feeders	
-ee	See Order ¹	See Order ¹	
you with 1 or 50 additional Feeder(s) C	ower Monitor Package Circuit Breaker Monito Circuit Breaker Monitoring of a medium-volta Strial IoT Resources suitable to connect 1 or 5 pending on the selected package.	ge air- or gas-insulated switchgear and	
Asset Attributes	4 additional Asset Attributes	200 additional Asset Attributes	
Time Series Data Storage	1 GB additional Time Series Data Storage	1 GB additional Time Series Data Storage	
Time Series Data Ingest Rate	0.01 KB/s additional Time Series Data Ingest Rate	0.03 KB/s additional Time Series Data Ingest Rate	
File Storage	1 GB additional File Storage	1 GB additional File Storage	
Extension (for application and	NXpM Main	tenance View	
Industrial IoT Resources)	Subsc	ription	
	1 additio	nal Feeder	
Fee	See (Order ¹	
contains the following additional Indus (air-, gas-insulated) to the Platform. Asset Attributes	trial IoT Resources suitable to connect 1 add	Asset Attributes	
Notification Email	1 000 additional	Email Notifications	
Time Series Data Storage	1 GB additional Time	e Series Data Storage	
Time Series Data Ingest Rate	0.01 KB/s additional Tim	0.01 KB/s additional Time Series Data Ingest Rate	
Extension (for application and	NXpM Transpar	ency - 1 LV-Feed.	
Industrial IoT Resources)	Subsc	ription	
	1 additio	nal Feeder	
Fee	See (Order ¹	
you with 1 additional Feeder Asset Tran	LV-Feed. (NXpower Monitor Package Asset T nsparency (power distribution board) of a low urces suitable to connect 1 low-voltage Feed	v-voltage switchgear and contains the	
Asset Attributes	52 additional <i>i</i>	Asset Attributes	
Time Series Data Storage	1 GB additional Time	e Series Data Storage	
Time Series Data Ingest Rate	0.1 KB/s additional Time	e Series Data Ingest Rate	
Extension (for application and	NXpM Transparency a	nd CM - 1 Transformer	
Industrial IoT Resources)	Subsc	ription	
	1 Tran	sformer	
Fee	See (Order ¹	
Monitoring for 1 Transformer) provides	CM – 1 Transformer (NXpower Monitor Pac you with Asset Transparency and Condition trial IoT Resources suitable to connect 1 Tran	Monitoring for 1 Transformer and	
Asset Attributes	31 additional /	Asset Attributes	
Time Series Data Storage	1 GB additional Time	e Series Data Storage	

Extension (for application and	NXpM Motor Monitoring - 1 Motor	
Industrial IoT Resources)	Subscription	
	1 Motor	
Fee	See Order ¹	

This extension, NXpM Motor Monitoring - 1 Motor, provides you with Motor Monitoring for 1 Motor via selected partner via API provided that you contract with the respective partner.

All provided that you contract with the re	spective partiter.
Extension (for application and	NXpM Sustainability - Energy Monitoring - 1 Feeder
Industrial IoT Resources)	Subscription
	1 Feeder
Fee	See Order ¹
	rgy Monitoring - 1 Feeder, provides you with Sustainability/Energy Monitoring for ional Industrial IoT Resources suitable to connect 1 Feeder to the Platform.
Asset Attributes	11 additional Asset Attributes
Time Series Data Storage	1 GB additional Time Series Data Storage
Time Series Data Ingest Rate	0.04 KB/s additional Time Series Data Ingest Rate
File Storage	1 GB additional File Storage
Extension (for application and	NXpM Custom Data Points - 10 Data Points per 1 Feeder
Industrial IoT Resources)	Subscription
	10 Data Points per 1 Feeder
Fee	See Order ¹
	s – 10 Data Points per 1 Feeder, provides you with Custom Data Points and contains the additional Industrial IoT Resources suitable to connect 10 signals
Asset Attributes	10 additional Asset Attributes
Timo Sorios Data Storago	1 GR additional Time Series Data Storage

Asset Attributes

Time Series Data Storage

1 GB additional Time Series Data Storage

Time Series Data Ingest Rate

0.03 KB/s additional Time Series Data Ingest Rate

¹⁾ Subscription-based pricing is set forth in the Order; ²⁾ You can decide if a Base Environment shall be created and provisioned to you as part of your NXpower Monitor Package Starter or if the NXpower Monitor Package Starter (without a Base Environment) shall be added to an existing Account (Base Environment or Insights Hub Capability Package Account). A Package can only be added to an existing Account if the Account and Package are hosted in the same data center location. If you decide to add various Packages to one existing Account, please note the following: The Industrial IoT Resources included in the various Packages will be combined under one Account; it is your responsibility to allocate the Industrial IoT Resources to the various Packages according to your needs. The combination of Industrial IoT Resources under one Account may lead to technical limitations in their accessibility https://siemens.mindsphere.io/en/docs/Product-Descriptions-Overview/technical-limitations.

General	
Subscription Term	The standard Subscription Term for NXpower Monitor Package Starter is either 12 or 36 months, and extensions are 12 months. The Subscription Term shall automatically renew if stated in the Order.
Co-term (renewal and termination)	The Subscription Term for extensions will be co-termed with the Subscription Term of the application and therefore can be shorter than the standard Subscription Term. If an application subscription is terminated, the associated extensions will also be terminated at the same time.
Payment Terms	Fees for NXpower Monitor Package Starter and for any of the extensions described herein are fully charged in advance for the entire Subscription Term unless otherwise expressly provided in an Order.
Service Level Agreement	The Monthly Availability for this application is at least 95%. Monthly Availability is defined in the Cloud Support and Service Level Frameworks available at https://www.siemens.com/sw-terms/sla .

Third-Party Terms	The Third-Party Terms for NXpower Monitor are made available via the following web link: https://siemens.mindsphere.io/en/docs/Product-Descriptions-Overview/Third-Party-Terms .
Support	Support may be contacted via the following email address: nxpowersupport@siemens.com. Support is available in English.

Export Control Regulations	
AL	N
ECCN	EAR99

Security Information	
General	In order to protect substations, plant, systems, machines and networks against cyber threats, it is necessary that you implement and continuously maintain a holistic, state-of-the-art substation security concept.
Secure communication	Data transmission will be done via HTTPS protocol from Asset to your Account.
Encryption standard	TLS 1.2 for communication between Asset and Insights Hub Account is used.

Definitions	
Asset	An Asset is the logical representation of a thing which for the purposes of this application is e.g. a medium- and low-voltage switchgear, transformer.
Feeder	A Feeder is a sub-Asset of a medium- or low-voltage switchgear, which can serve the function of incomer or outgoing or bus-sectionalizer or bus coupler or metering etc.
Substation	A Substation is a part of an electrical infrastructure which may house medium-voltage and/or low-voltage switchgears in enclosed building or metallic housing (E-House). The substation/E-House may also include transformers along with switchgears but mounted outside the building/E-House to change voltage levels.
Variable	Data point of a configured Asset.
General	Unless otherwise indicated, capitalized terms used in this document shall have the meaning given to them in this Product Sheet or elsewhere in the Agreement. You may also want to check our Glossary.

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https://siemens.mindsphere.io/en/docs/Product-Descriptions-Overview